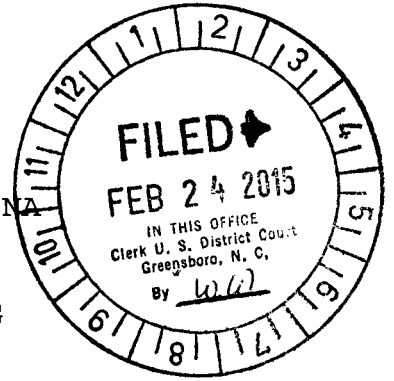


IN THE UNITED STATES DISTRICT COURT  
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA



UNITED STATES OF AMERICA : SUPERSEDING  
:   
v. :   
:   
JIMMY SHANG XIANG : 1:14CR160-1  
XIAOHANG DU : 1:14CR160-2

The Grand Jury charges:

INTRODUCTION

At all times material to this Indictment:

1. RF Micro Devices, Inc. ("RFMD") was a publicly-traded company whose business focused on radio frequency component and compound semiconductor technology products and services. RFMD's corporate headquarters were located in Greensboro, North Carolina. RFMD sold and shipped, and intended to sell and ship, radio frequency component and compound semiconductor technology products, including products designed for use in cellular handset, mobile, and mobile-to-mobile, also known as "M2M," devices, in interstate and foreign commerce.

2. RFMD designed, produced, sold, and shipped the following products, among others, designed for use in cellular handset, mobile, and "M2M" devices: power amplifiers, transmit modules, high-performance switches, switch filter modules, and front end power management components. The aforementioned

products controlled and managed power inputs and outputs and radio frequency transmission.

3. From on or about September 7, 1999, continuing up to and including on or about September 10, 2010, the exact dates to the Grand Jurors unknown, JIMMY SHANG XIANG was employed by RFMD, first as a Field Applications Engineer in its Greensboro, North Carolina, office and then as a Sales Manager in its Beijing, China, office. Among other things, JIMMY SHANG XIANG was responsible for engaging with customers and distributors and bridging the gap between product design and customer sales. While an employee of RFMD, JIMMY SHANG XIANG had access to RFMD's confidential and proprietary information, including information regarding sale prices and targeted new customers.

4. As a condition of his offer of employment with RFMD, JIMMY SHANG XIANG executed an Inventions, Confidentiality and Nonsolicitation Agreement with RFMD, which contained restrictions relating to disclosure of proprietary information belonging to RFMD.

5. From on or about September 5, 2000, continuing up to and including on or about September 10, 2010, the exact dates to the Grand Jurors unknown, XIAOHANG DU was employed by RFMD as a Design Engineer in its Greensboro, North Carolina, office. Among other things, XIAOHANG DU was responsible for the design and development of new radio frequency components. While an

employee of RFMD, XIAOHANG DU had access to RFMD's confidential and proprietary information, including certain technical information and design databases.

6. As a condition of his offer of employment with RFMD, XIAOHANG DU executed an Inventions, Confidentiality and Nonsolicitation Agreement with RFMD, which contained restrictions relating to disclosure of proprietary information belonging to RFMD.

7. From on or about October 7, 2002, continuing up to and including on or about July 2, 2008, the exact dates to the Grand Jurors unknown, UNINDICTED CO-CONSPIRATOR 1 ("CC-1") was employed by RFMD as a Design Engineer in its Greensboro, North Carolina, office. Among other things, CC-1 was responsible for the design and development of new radio frequency components. While an employee of RFMD, CC-1 had access to RFMD's confidential and proprietary information, including certain technical information and design databases.

8. As a condition of CC-1's offer of employment with RFMD, CC-1 executed an Inventions, Confidentiality and Nonsolicitation Agreement with RFMD, which contained restrictions relating to disclosure of proprietary information belonging to RFMD.

9. From on or about August 16, 2004, continuing up to and including on or about September 30, 2010, the exact dates to the

Grand Jurors unknown, UNINDICTED CO-CONSPIRATOR 2 ("CC-2") was employed by RFMD as a Senior Sales Manager in its Beijing, China, office. Among other things, CC-2 was responsible for engaging with customers and distributors and bridging the gap between product design and customer sales. While an employee of RFMD, CC-2 had access to RFMD's confidential and proprietary information, including information regarding sale prices and targeted new customers.

10. As a condition of CC-2's offer of employment with RFMD, CC-2 executed an Inventions, Confidentiality and Nonsolicitation Agreement with RFMD, which contained restrictions relating to disclosure of proprietary information belonging to RFMD.

11. From on or about September 7, 1999, continuing up to and including on or about July 1, 2013, the exact dates to the Grand Jurors unknown, UNINDICTED CO-CONSPIRATOR 3 ("CC-3") was employed by RFMD as a Senior Product Engineer in its Greensboro, North Carolina, office. Among other things, CC-3 was responsible for developing testing equipment to test RFMD's new products. While an employee of RFMD, CC-3 had access to RFMD's confidential and proprietary information, including certain new product testing information.

12. As a condition of CC-3's offer of employment with RFMD, CC-3 executed an Inventions, Confidentiality and

Nonsolicitation Agreement with RFMD, which contained restrictions relating to disclosure of proprietary information belonging to RFMD.

13. In designing and manufacturing radio frequency component and compound semiconductor technology products and services, RFMD created confidential and proprietary design specifications, design databases, cost models, financial analyses, failure analyses, and advanced research and development plans, including those contained in the following documents and files:

a. Assembly and Parts Cost Information for Transmit Module 1 ("Document One"). Document One contained information derived from RFMD's internal and proprietary cost modeling tool for Transmit Module 1, as well as competitive analysis for third-party products.

b. Assembly and Parts Cost Information for Power Amplifier Module 1 ("Document Two"). Document Two contained information derived from RFMD's internal and proprietary cost modeling tool for Power Amplifier Module 1. Document Two bore the legends "Confidential" and "Controlled Copy."

c. Transmit Module Cost Model ("Document Three"). Document Three contained information regarding fabrication process costs and advanced product development.

d. Advanced Development Presentation ("Document Four"). Document Four contained information created by RFMD's Advanced Product Development Group regarding future technology platforms and products.

e. CMOS RF7164 Version 1 ("File One"). File One contained designs for RFMD's RF7164 Power Amplifier Module, including for the following processes that controlled how the Power Amplifier Module operated:

- i. Power Star 1
- ii. Power Flatness
- iii. Vramp Limiting
- iv. Combo Bias

14. RFMD considered information contained in Documents One, Two, Three, and Four and File One trade secrets. RFMD used a number of reasonable measures to protect its trade secret information and other confidential and proprietary information, including the following:

a. RFMD required its employees, as a condition of an offer of employment, to execute an Inventions, Confidentiality and Nonsolicitation Agreement with RFMD, which contained restrictions relating to disclosure of proprietary information belonging to RFMD.

b. RFMD required its employees, prior to beginning work with RFMD, to attend an orientation wherein each new

employee was provided with RFMD's Employee Handbook ("Employee Handbook"), which detailed security measures each employee was required to undertake in order to protect information belonging to RFMD.

c. The Employee Handbook required that:

- i. proprietary business conversations be conducted outside of the presence of visitors and away from areas where visitors could overhear such conversations;
- ii. employees only send proprietary information when it was properly encrypted, so as to prevent disclosure;
- iii. all employees and key contractors wear identification badges bearing photographic image identification while on RFMD's premises;
- iv. all visitors to RFMD premises wear "visitor" badges to identify them as non-RFMD employees; and
- v. all visitors sign in at the corporate building reception area or security office, sign out upon departure, and return the "visitor" badges at that time.

d. RFMD's Information Technology procedures required that:

- i. all employees use a unique username and password to access RFMD's secure internal computer network;
  - ii. all employee usernames and passwords have specific permissions associated with it that permitted and limited access to certain RFMD files located on RFMD's secure internal company network; and
  - iii. any employee attempting to access RFMD's secure internal computer network from a location other than RFMD premises do so through the use of a secure Virtual Private Network ("VPN").
- e. RFMD's physical security procedures required

that:

- i. the main reception area be manned by an RFMD employee;
- ii. all visitors be escorted around the premises by an RFMD employee;
- iii. visitors, as well as non-qualified RFMD employees, not access certain areas on RFMD premises designated as "access-restricted" without proper supervision; and
- iv. cameras not be used in certain production areas, product or process technology areas,



product marketing areas, and business planning or development areas without an authorized camera pass.

15. The trade secret information contained within Documents One, Two, Three, and Four and File One derived independent economic value, both actual and potential, from not being generally known to, and not being readily ascertainable through proper means by, the public.

COUNT ONE

1. Paragraphs One through Fifteen of the Introduction are hereby re-alleged and incorporated by reference as if set forth fully herein.

2. Beginning on or about July 23, 2009, continuing up to and including in or about August 2012, the exact dates to the Grand Jurors unknown, in the County of Guilford, in the Middle District of North Carolina, and elsewhere, JIMMY SHANG XIANG and XIAOHANG DU, together with divers other persons, both known and unknown to the Grand Jurors, did knowingly and willfully combine, conspire, confederate, agree, and have a tacit understanding with each other and divers other persons known and unknown to the Grand Jurors to commit the following offenses:

a. Theft of trade secrets, in violation of Title 18, United States Code, Section 1832(a)(1);

b. Unlawful replication and transmission of trade secrets, in violation of Title 18, United States Code, Section 1832(a)(2); and

c. Receipt and possession of trade secrets, while knowing the same to have been stolen and taken without authorization, in violation of Title 18, United States Code, Section 1832(a)(3).

#### MANNER AND MEANS

3. JIMMY SHANG XIANG and XIAOHANG DU would and did carry out the conspiracy and effect its unlawful objects, that is, the theft, unauthorized transmittal, and possession of trade secrets, through the following manner and means, among others:

a. It was a part of the conspiracy that, starting on or about a date unknown to the Grand Jurors but no later than July 24, 2009, JIMMY SHANG XIANG, XIAOHANG DU, CC-2 and CC-3 would use their access as RFMD employees to obtain certain confidential and proprietary documents on RFMD's secure internal computer network and then would transmit them to co-conspirators via electronic mail (hereinafter "email").

b. It was a further part of the conspiracy that JIMMY SHANG XIANG, XIAOHANG DU, CC-2 and CC-3 would transmit these confidential and proprietary documents to one another, as well as their co-conspirators, using third-party email providers such as Google and Yahoo! (hereinafter "personal email

accounts") so as to avoid detection by RFMD, all in violation of their Inventions, Confidentiality and Nonsolicitation Agreements with RFMD.

c. It was a further part of the conspiracy that JIMMY SHANG XIANG, XIAOHANG DU, CC-2 and CC-3 would access certain confidential and proprietary documents and files on RFMD's secure internal computer network that did not relate to their responsibilities as employees of RFMD and for which they had no employment-related reason to access.

d. It was a further part of the conspiracy that JIMMY SHANG XIANG and XIAOHANG DU would delete all evidence of the confidential and proprietary documents and files that they had obtained in order to avoid detection by RFMD.

e. It was a further part of the conspiracy that JIMMY SHANG XIANG, XIAOHANG DU and CC-1 would use these confidential and proprietary documents and files to establish Vanchip Technologies, Ltd. ("Vanchip"), a business in competition with RFMD.

f. It was a further part of the conspiracy that JIMMY SHANG XIANG, XIAOHANG DU and CC-1 would use these confidential and proprietary documents and files to establish Vanchip (Tianjin) Technologies, Ltd. ("Vanchip Tianjin"), a business in competition with RFMD.

g. It was a further part of the conspiracy that JIMMY SHANG XIANG, XIAOHANG DU, CC-1 and CC-2 would use these confidential and proprietary documents and files to establish Vivatronic Technologies, Ltd. ("Vivatronic"), a business in competition with RFMD.

h. It was a further part of the conspiracy that JIMMY SHANG XIANG, XIAOHANG DU, CC-1 and CC-2 would use these confidential and proprietary documents and files to create, for these competing businesses, products intended to compete with those offered by RFMD.

#### OVERT ACTS

4. In furtherance of the conspiracy and to achieve the objects and purposes thereof, JIMMY SHANG XIANG and XIAOHANG DU committed the following overt acts, among others, in the Middle District of North Carolina, and elsewhere:

a. On or about July 24, 2009, XIAOHANG DU used his personal email account to send Document One to that same account. Document One contained trade secret information belonging to RFMD.

b. On or about July 24, 2009, JIMMY SHANG XIANG created, for Vanchip, a Power Point document entitled "China Cellular Market Analysis" that contained trade secret information identical to that which was contained in Document One.

c. On or about July 28, 2009, CC-2 used his personal email account to send a draft business plan for Vanchip to JIMMY SHANG XIANG, XIAOHANG DU, CC-1 and CC-3 at their personal email accounts. CC-2 wrote, in the above-identified email message, "pls find attached my update [sic] version for coming presentation to possible investor."

d. On or about July 31, 2009, XIAOHANG DU used his personal email account to send an email to JIMMY SHANG XIANG, at his personal email account, attaching a document containing the trade secret information identical to that which was contained within Document One.

e. On or about August 10, 2009, XIAOHANG DU used his personal email account to send an email message regarding a Vanchip business plan to JIMMY SHANG XIANG, CC-1, CC-2 and CC-3 at their personal email accounts. XIAOHANG DU wrote in the above-identified email message, "We probably want to add more analysis on competitor's weakness to show the customer even [sic] it is overcrowded, we could still beat them . . . ." XIAOHANG DU further stated in the email that the co-conspirators have "regular weekly meeting [sic] starting from this week" to discuss their business venture.

f. On or about January 9, 2010, JIMMY SHANG XIANG and CC-1 met with a potential investor in Vanchip ("POTENTIAL INVESTOR 1") in Las Vegas, Nevada.

g. On or about January 25, 2010, JIMMY SHANG XIANG used his personal email account to send a document summarizing the business plan for Vanchip to POTENTIAL INVESTOR 1, which contained trade secret information identical to that which was contained in Document One.

h. On or about February 14, 2010, JIMMY SHANG XIANG used his personal email account to send five documents that were confidential and proprietary to RFMD to XIAOHANG DU, CC-1 and CC-2 at their personal email accounts, including Document Two. Document Two contained trade secret information belonging to RFMD.

i. On or about March 20, 2010, JIMMY SHANG XIANG used his personal email account to send an email message to XIAOHANG DU, CC-1 and CC-2 summarizing an earlier meeting of the co-conspirators. The message stated in part: "Xiaohang and [CC-1] to send a list of 'must know' from design perspective by Sunday outline [sic] what we need to find out before formally quite [sic] position."

j. On or about April 6, 2010, Vanchip formally incorporated in the State of North Carolina, listing CC-1 as its president.

k. On or about June 2010, Vanchip Tianjin was founded in China. Later related documentation listed JIMMY SHANG XIANG as the President of Vanchip Tianjin.

1. On or about June 1, 2010, JIMMY SHANG XIANG used his personal email account to send Document Three to CC-3. Document Three contained trade secret information belonging to RFMD.

m. On or about June 15, 2010, JIMMY SHANG XIANG used his personal email account to send Document Four to XIAOHANG DU, CC-1 and CC-2. JIMMY SHANG XIANG wrote, in the above-referenced email message: "FYI, this will give you guys some idea about [RFMD]'s future development." Document Four contained trade secret information belonging to RFMD.

n. On or about August 13, 2010, XIAOHANG DU deleted numerous files from his RFMD-issued computer hardware, including File One.

o. On or about September 3, 2010, JIMMY SHANG XIANG used his personal email account to send a document containing confidential and proprietary information belonging to RFMD to XIAOHANG DU, CC-1 and CC-2 at their personal email accounts. The document contained confidential and proprietary competitive analysis information belonging to RFMD. In the above-referenced email message, JIMMY SHANG XIANG wrote: "FYI, this [sic] give you some idea about our future competitors . . . ."

p. On or about September 23, 2010, Vivatronic formally incorporated in the State of North Carolina. Later related documentation filed with the North Carolina Secretary of

State listed CC-1 as its company president, and XIAOHANG DU and JIMMY SHANG XIANG as its company vice-presidents.

q. On or about September 24, 2010, JIMMY SHANG XIANG deleted numerous files from his RFMD-issued computer hardware.

r. On or about July 29, 2011, Vanchip Tianjin, located in China, completed a Purchase Order for the production of components of a Vanchip Tianjin product, the "VC5268."

s. On or about a date unknown to the Grand Jurors but after September 24, 2010, and prior to November 25, 2013, Vanchip Tianjin created a document detailing the comparison between the VC5268 and an RFMD product, the "RF7168." The CMOS design for the RF7168 was derived from the designs contained in File One.

All in violation of Title 18, United States Code, Section 1832(a)(5).

#### COUNTS TWO through SIX

1. The allegations set forth in Paragraphs One through Fifteen of the Introduction are hereby re-alleged and incorporated by reference as if set forth fully herein.

2. Between on or about July 23, 2009, continuing up to and including on or about September 24, 2010, the exact dates to the Grand Jurors unknown, in the County of Guilford, in the Middle District of North Carolina, and elsewhere, JIMMY SHANG XIANG and XIAOHANG DU, aided and abetted by each other, with the



intent to convert a trade secret to the economic benefit of someone other than RFMD, and intending and knowing that the offense would injure RFMD, did knowingly and without authorization copy, duplicate, download, upload, alter, replicate, transmit, deliver, send, mail, communicate, or convey a trade secret owned by RFMD, which was related to and included in a product that was produced for and placed in interstate and foreign commerce, as set forth in the chart below:

COUNT	DATE (on or about)	TRADE SECRET
TWO	7/23/2009	The design, contained in FILE ONE, that was accessed and downloaded by XIAOHANG DU prior to its deletion from his RFMD-issued computer hardware, containing trade secret information regarding "Power Star 1," "Power Flatness," "Vramp Limiting," and "Combo Bias"
THREE	7/24/2009	Document One, attached to an email message from XIAOHANG DU's personal email account to that same account, containing trade secret information regarding Transmit Module 1
FOUR	2/14/2010	Document Two, attached to an email message from JIMMY SHANG XIANG's personal email account to the personal email accounts of XIAOHANG DU, CC-1 and CC-2, containing trade secret information regarding Power Amplifier Module 1
FIVE	6/1/2010	Document Three, attached to an email message from JIMMY SHANG XIANG's personal email account to the personal email accounts of CC-3, containing trade secret information regarding fabrication process costs and advanced product development
SIX	6/15/2010	Document Four, attached to an email message from JIMMY SHANG XIANG's personal email account to the personal email accounts of XIAOHANG DU, CC-1 and CC-2, containing trade secret information regarding future technology platforms and products

All in violation of Title 18, United States Code, Sections 1832(a)(2) and 2.

#### FORFEITURE ALLEGATION

Upon conviction of one or more of the offenses alleged in Counts One through Six of this Indictment, JIMMY SHANG XIANG and XIAOHANG DU shall forfeit to the United States, pursuant to 18 U.S.C. §§ 1834(a)(1) and 2323, and 28 U.S.C. § 2461, (1) any property, real or personal, constituting or derived from, the proceeds obtained directly or indirectly as a result of the offenses in Counts One through Six of the Indictment; (2) any property used, and intended to be used, in any manner and part, to commit and facilitate the commissions of such violations; and (3) any property traceable to such property, including but not limited to a money judgment for a sum of money equal to all of the proceeds obtained as a result of the offenses listed in Counts One through Six of this Indictment.

#### SUBSTITUTE ASSET PROVISION

If, as a result of any act or omission of the defendants, any property subject to forfeiture:

a. cannot be located upon the exercise of due diligence;

b. has been transferred or sold to, or deposited with, a third person or entity;

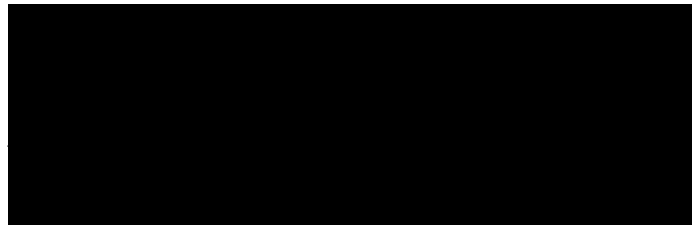
c. has been placed beyond the jurisdiction of the Court;


d. has been substantially diminished in value; or

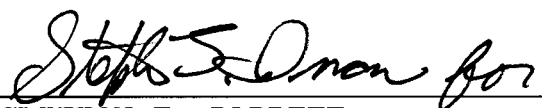
e. has been commingled with other property which cannot be subdivided without difficulty;

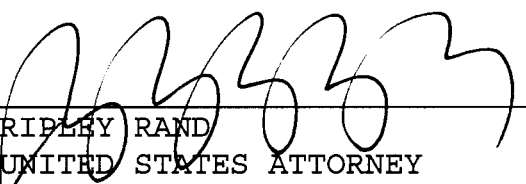
The United States intends, pursuant to Title 21, United States Code, Section 853(p), as incorporated by Title 18, United States Code, Section 982(b), to seek forfeiture of any other property of said defendant up to the value of the forfeitable property.

A TRUE BILL:



  
\_\_\_\_\_  
JOANNA G. MCFADDEN  
ASSISTANT UNITED STATES ATTORNEY

  
\_\_\_\_\_  
CLIFTON T. BARRETT  
CHIEF, CRIMINAL DIVISION  
ASSISTANT UNITED STATES ATTORNEY

  
\_\_\_\_\_  
RIPLEY RAND  
UNITED STATES ATTORNEY